

## Claims:

1. A method for providing a global reference value to tailor the output of each LED in a printer that exposes a charged photosensitive member to light from an array of light emitting diodes (LEDs), the method comprising:
  - 5 storing data signals representative of differences between the average rate of light output as a function of applied voltage or supplied current of the LEDs and the actual rate of light output as a function of applied voltage or supplied current of the LEDs; and
  - 10 adjusting the output of the LEDs by a global amount in accordance with the stored difference data signals.
2. The method of claim 1 wherein the stored difference data signal for each LED represents a difference between an average linear rate of change and the linear rate of change of individual LEDs.
- 15 3. The method of claim 1 wherein the stored difference data signal for LEDs represents a difference between an average linear rate of change and the rate of change of individual LEDs that is nonlinear and approximated by a quadratic function.
- 20 4. The method of claim 1 further comprising grouping together LEDs with substantially the same difference data signal.
- 25 5. The method of claim 1 further comprising setting a minimum and a maximum output based on the dimmest LED;
6. A printer comprising:
  - a printhead comprising a plurality of radiation emitting recording elements
  - 30 for recording image data on a recording medium; and
  - a correction device for:
    - addressing individual recording elements with a global reference data signal;
    - measuring the output emission characteristics of recording elements;

calculating the difference between the average emission characteristic of the recording elements and the individual emission characteristic of each recording element;

altering the output emission of recording elements as a function of the calculation.

7. The printer apparatus of claim 6 wherein the difference corresponds to a difference between an average linear rate of change and the linear rate of change of individual recording elements.

8. The printer of claim 6 wherein the difference corresponds to a difference between an average linear rate of change and the rate of change of individual recording elements that is nonlinear and approximated by a quadratic function..

9. The printer of claim 6 wherein the correction device stores the difference between a linear regression of the individual and average light emission characteristics and a difference between a non-linear regression of the individual and average light emission characteristics and the printer uses one or both differences to adjust the light output of the recording elements.

10. The printer of claim 6 wherein recording elements with substantially the same difference data signal are grouped together.

11. A method for improving performance of an electrographic copier or printer that exposes a charged photosensitive member to light from an array of light emitting diodes (LEDs) wherein the outputs of all the LEDs are controlled by a global reference representative of the average rate of light output as a function of change in voltage applied or current supplied to the LEDs and adjusts the output of each LED in accordance with the global reference representative of the average rate of light output changes, comprising:

storing data signals representative of differences between the global reference representative of the average rate of light output changes and the individual linear rate of light output as a function of applied voltage or supplied current of the LEDs; and

adjusting the output of the LEDs by a global amount in accordance with the stored difference data signals.

12. The method of claim 11 wherein the stored difference data signal for each  
5 LED represents a difference between an average linear rate of change and the linear rate of change of individual LEDs.

13. The method of claim 11 wherein the stored difference data signal for LEDs  
10 represents a difference between an average linear rate of change and the rate of change of individual LEDs that is nonlinear and approximated by a quadratic function.

14. The method of claim 11 further comprising grouping together LEDs with  
substantially the same difference data signal.

15

15. The method of claim 11 further comprising setting a minimum and a  
maximum output based on the dimmest LED.

16. A printer comprising:  
20 a printhead, comprising an array of recording elements that emit radiation that exposes a charged photosensitive member;  
a controller for:  
addressing recording elements with a global reference data signal;  
measuring emission data of the recording elements;  
25 determining the difference between the average emission data of the recording elements and the individual emission data of recording elements;  
altering the output of recording elements as a function of the determinations.

17. The apparatus of claim 16, wherein the determination represents a difference  
30 between an average linear rate of change and the linear rate of change of individual recording elements.

18. The method of claim 16, wherein the determination represents a difference between an average linear rate of change and the rate of change of individual recording elements that is nonlinear and approximated by a quadratic function
- 5 19. The apparatus of claim 16, further wherein recording elements with substantially the same difference are grouped together.
20. The method of claim 16, wherein minimum and a maximum outputs are set based on the dimmest recording element.
- 10 21. The method of claim 16, wherein if the determination results in a zero difference or if the determination is invalid, then no alteration is made.
22. The method of claim 1, wherein the stored difference data signal for LED  
15 represents a difference between an individual linear rate of change and the individual rate of change of LEDs that is nonlinear and approximated by a quadratic function.
23. The printer of claim 6, wherein the difference corresponds to a difference  
20 between an individual linear rate of change and the individual rate of change of recording elements that is nonlinear and approximated by a quadratic function.
24. The method of claim 11, wherein the difference represents a difference between an individual linear rate of change and the individual rate of change of  
25 LEDs that is nonlinear and approximated by a quadratic function.
25. The method of claim 16, wherein the difference for each LED represents a difference between an individual linear rate of change and the individual rate of change of LEDs that is nonlinear and approximated by a quadratic function.